

Thematic Design: My Story Is Better When Your Story Is Better. Kay Tobola¹ and Jaclyn Allen², ¹ ESCG, ARES, JSC-Houston (kay.w.tobla@nasa.gov), ² ESCG, ARES, JSC-Houston, TX(jaclyn.allen-1@nasa.gov)

Introduction: What does a well-designed thematic workshop look like? Walking into a presentation at a convention center or at a NASA center, one might see formal and informal educators receiving space science content from knowledgeable science experts, actively participating in topic-related activities, questioning, collaborating, and investigating, connecting topics and content to their education needs, and having fun. But what is really going on, and what did it take to get to this point- the point of delivery.

This is an opportunity to share experience and knowledge pertaining to designing and conducting space science thematic workshops and trainings. It is an attempt to describe the thematic approach to space science education that has been demonstrated in Solar System Exploration Education Forum workshops over many years and to articulate the best practices pertaining to designing and presenting those workshops.

Constructing the Framework: Identifying the Objectives, Themes, and a Story

The designing of a workshop begins with the identification the general content to be shared, the audience, and venue. This is often done in an abstract submitted to a conference or as part of a funding proposal. As a part of that process, partners are identified. These include entities that bring content pieces to the workshop design, that provide funding, or that bring the audience. With the partners identified and an awareness of the general content, the audience, and the venue, the next step is to build the framework of the thematic workshop. There are three components-identifying objectives, developing themes, and crafting a story. These will be discussed in a useful, logical sequence; however, each component informs and draws on the other two, creating a back and forth flow among the three. Identifying the objectives is a recommended place to start. Identifying the objectives carefully and completely is essential to success of the workshop. The objectives serve as the most basic part of the framework on which the workshop is built. The first step in identifying the workshop objectives is to recognize that sets of objectives already exist. They are the reason for your funding; they are the ideals that bring a group together; they are the purpose of an event. Although each project, group, or event has objectives, they probably don't all apply to a specific thematic workshop. So step two requires looking at the existing objectives of the partners and tailoring a list of objectives that define this specific endeavor. The last part of this process is sharing the objectives. The objectives must be clearly writ-

ten and shared with all partners. Objectives are used to define success. It is important to describe a vision of success early in the development process based on the objectives and their related outcomes.

With the objectives identified and shared, it is time to develop the next piece of the framework, the themes. The term *themes* is a name of the sub-sets of information that emerge as the topics from supporting sources are blended. It is this process and product that uniquely define the thematic workshop. Looking at the core content pieces to be shared begins the process. These core content pieces could be taught as individual lessons. However, the point of a thematic workshop is to weave these pieces together into an integrated learning experience. So now consider how these pieces are connected. What are their common elements? Are they subsets of a larger concept? Do they mutually prepare the learner for the next content piece or topic? Is there a shared need for the learner to have a specific prior knowledge? A theme emerges when a common, binding idea is identified. With the themes and objectives identified, the one remaining piece of the framework is the story. Developing a story or narrative for the workshop has two benefits. One, it helps identify the depth and breadth of the content. Secondly, story is a tool for connecting the learner to a deeper understanding of the content. Story is a way of receiving information that humankind seems to have shared over time and geography. Perhaps our brains are even hard-wired for it. In this discussion of thematic workshop development, story refers to the progression in which the themes are addressed and the content is shared. Just as partners bring objectives to workshop, they each bring their story. In developing the story for the workshop, multiple resources are drawn from. The story of the science, the U.S. education curriculum scope and sequence, and the individual partners' stories are general examples.

The time and effort devoted to the identification of objectives, development of themes, and crafting of the story will be rewarded as the workshop design and delivery move forward.

Designing the Workshop

Designing the workshop is the process that lays out what the learners will experience during the workshop. Key factors in designing the space science thematic workshop are recognizing the needs of the audience, deciding how to hand-off the content knowledge, and creating the style of presentation. There are many decisions to be made in this process. After considering au-

audience's needs, the content, and the components of the framework, some of the decisions come down to the presenters' personal comfort level and experience. Major areas to consider are experiential design and progression, delivery methods, awareness of the audience, and style and blending.

The process of developing and designing a thematic workshop can be compared to a woven tapestry. With the framework of objectives, themes, and story constructed, and the threads for weaving the design of the workshop chosen and worked into place with purpose and imagination, the tapestry of a well designed, thematic workshop is ready for display.